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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

DATE: 12-13-95

Brandt Butler
Project Coordinator
DuPont Environmental Remediation Services
Barley Mills Plaza 27/P.O. Box 80027
Wilmington, DE 19880-0027

RE: North Landfill Value Engineering Report

Dear Mr. Butler,

EPA has reviewed DuPont's "Value Engineering Report for the North Landfill and Plant Area" dated 9/29/95. Below are the Agency's comments.

1) EPA approves of the location along the crest of the north landfill (NL) rather than along the river bank.

2) EPA approves the incorporation of the removal sheet pile wall into the final barrier wall. Sheet piles are also acceptable around Ciba's Building 47 and at locations where elevation changes make slurry walls difficult or impossible to construct. However, EPA does not believe that sheet piles alone are an adequate barrier. Experience of the U.S. Army Corps of Engineers (USACE) has shown that the joints can leak significantly. Therefore, all sheet piling (that are to be installed and that have already been installed) must be continuously grouted behind the pilings as was discussed at the value engineering meetings in 4/95. Also, since this wall must be in place and operational for millions of years (the landfill does contain radioactive waste), any rate of corrosion will cause problems. The design must contain exceptional corrosion inhibiting measures. After discussing this issue with the USACE, EPA suggests that DuPont evaluate coatings and sacrificial anodes to provide corrosion protection.

3) EPA is concerned that a two foot wide slurry wall is not adequate, especially if cores are collected after construction for permeability testing. DuPont should consider a three foot wide wall. Also, due to the length of time that this barrier wall must function, EPA believes that putting a geo-membrane in the slurry trench would greatly enhance the overall value of the remedy. The membrane would only need to be installed to the marsh deposit even if the rest of the slurry wall extends to the base of the Columbia aquifer. According to the information in Appendix A, the addition would change the cost

approximately $4 per square foot and increase the overall cost estimate in Table 1 by approximately $160,000.

4) DuPont must provide information demonstrating that the removal sheet piles were driven to the Potomac aquifer.

5) Vegetation should be destroyed along the riverbank only as a last result and only with EPA approval. The soil cover does not need to extend down the slope unless there is a way to replace the riparian habitat.

6) EPA believes that the data presented to date indicates that the marsh deposit may extend underneath all of the waste material. If this condition can be adequately documented and if the Columbia formation can be remediated through pumping in a relatively short time frame (two to three decades) to protect the river, EPA will consider modifying the performance standards of the ROD to only require the barrier wall to extend to the marsh deposits and not to the base of the Columbia aquifer.

If you have any questions regarding this matter, please call me at 215-597-0978.

Sincerely,

Randy Sturgeon

Randy Sturgeon
Remedial Project Manager
General Remedial Section

cc: Brian L. Steelman, Ciba
Anne Hiller, DNREC
Ed Cox, USACE